

Maths for Economists

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EPP, M1, Sciences Po

This course is devoted to make students more comfortable with basic concepts of maths for economists, to understand quantitative economics, econometrics. Focus on manipulations and applications. Adjustment to the level/expectations of students.

I- Real analysis = fundamentals

Sequences, continuity, derivatives, applications, polynomials.

II- Integration

III- Linear algebra : some reminders

Matrices, linear maps, determinants, change of basis matrices, diagonalization.

IV- Multivariate analysis

Metric spaces, continuity, partial derivatives, gradient, differentiability, hessian, convexity, applications.

V- Refreshment in optimization

Unconstrained optimization, constrained optimization (lagrangian, inequality constraints, Kuhn-Tucker conditions), applications to microeconomics.

References

[1] C.P. Simon, L.E. Blume, Mathematics for Economists, Norton and Co., 1994.

[2] P. Roger, Mathématiques pour l'économie et la gestion, Pearson, 2011. [more advanced]